Welcome in Belgium - Wallonia

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EXPORT INVESTM<u>ENT</u>

March 2021



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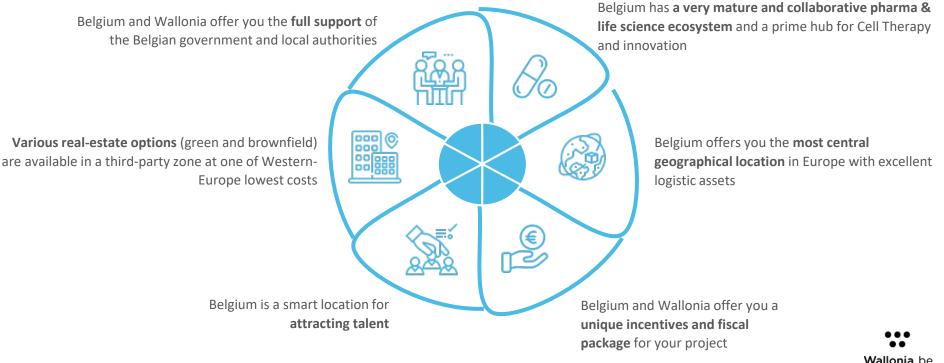
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A strong, strategic location for your company's new production and logistics hub

1. Why your company should choose Belgium and Wallonia?

As the pharma & life sciences valley of Europe, Belgium offers a strong, strategic location for your company's new logistics & CAR-T manufacturing hub



EXPORT INVESTMENT

Introduction to the Belgian 2. Ecosystem

- 2. 1. Belgium & Wallonia general overview
- 2. 2. Description of the CAR-T Ecosystem



2.1 Belgium & Wallonia general overview



- 1) Wallonia Belgium, at the heart of Europe
- 2) Facts and figures
- 3) Accessibility
- 4) Workforce
- 5) Corporate tax rate for your company
- 6) Numerous incentives
- 7) Effective help from the Wallonia Export-Investment Team

Wallonia - Belgium, at the heart of Europe



Effective help from the Wallonia Export-Investment Team



Belgium & Wallonia: Facts and Figures



Accessibility



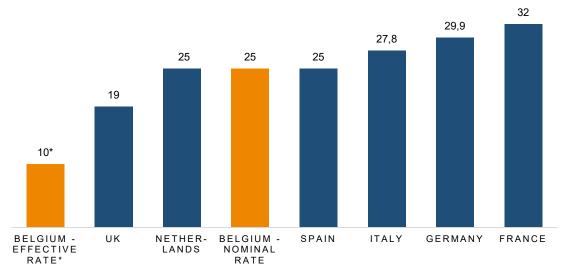
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Workforce



Overall productivity

Corporate tax rate for your company



CORPORATE TAX RATES IN 2020 %

* Effective tax rate for Your company → Cfr. Chapter 4





Numerous incentives









Investment incentives

R&D incentives

Employment incentives

Export incentives



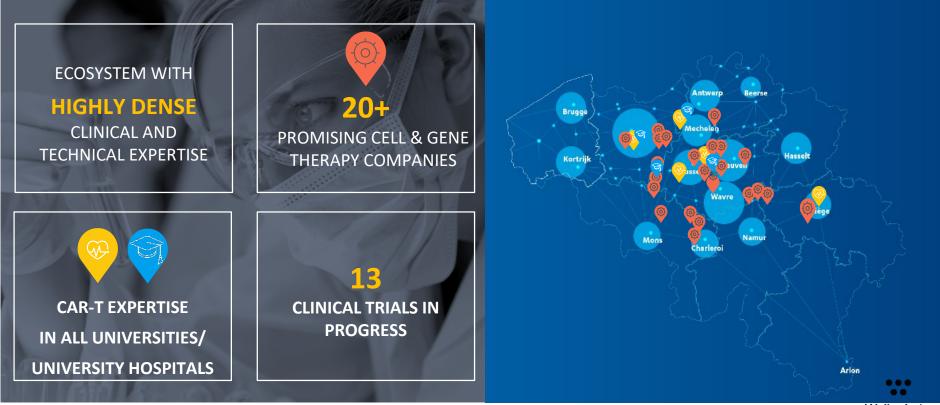
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Description of the CAR-T Ecosystem



- 1) Belgium: A Prime Hub and Mature Ecosystem for Cell Therapy
- 2) Belgium: Highest Density Of Advanced Therapy Companies In The World Workforce
- 3) Belgium: A Fertile Ground for Cell and Gene Therapy Companies
- A large number of collaborations between Universities and Pharmaceutical
- 5) Belgium: the Top Country for Clinical Trials in Europe
- 6) A leading country for innovation

Belgium: A Prime Hub and Mature Ecosystem for Cell Therapy



Feel inspired

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Belgium: Highest Density of Advanced Therapy Companies in the World

Belgium: a world leading cell therapy cluster



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Belgium: A Fertile Ground for Cell and Gene Therapy Companies

+ More than 50 Service Providers with Know-how and Expertise



A large number of collaborations between Universities and Pharmaceutical companies

CAR-T Expertise in all University Hospitals	Selection of University collaborations	Purpose of collaboration
	KU Leuven - Janssen	Cell therapy
	KU Leuven - UCB cooperation	Immunology
UNIVERSITÉ Université	Janssen NV and Janssen-Cilag NV	Innovation charter with UGent and UZ Gent
Antwerpen	University Hospital and Liege University – Janssen NV and Janssen-Cilag-Liege	Multidisciplinary research projects and faster introduction of medical innovation
GHENT UNIVERSITY UNIVERSITY	Antwerp University, University Hospital of Antwerp & POM	Accelerator in Niel, where biotech companies work on cell therapy treatments
Universiteit >>hasselt VRIJE UNIVERSITEIT BRUSSEL UNIVERSITEIT de Louvain	Erasmus hospital in Brussels - Pfizer Clinical Research Unit (PCRU)	Early drug research
Landidate Augentication	UCL Saint-Luc - Promethera	Broad variety of liver diseases
MORE	University Hospital of Ghent-Novartis	CAR-T clinical phase I in Europe
AP ARTESS PLANTIN HOGESCHOOL ANTWERPEN HOGESCHOOL ANTWERPEN HoGent	CHU Liége - MaSTherCell	Cell therapy dedicated Contract Development & Manufacturing Organization
HOGESCHOOL 20 / w devite pegie Karel de Grote Hogeschool	University of Louvain (UCL) - NOVADIP	Spin-off in innovative cell therapies
	University hospital CHU Liége - LTCG	GMP certified lab for cell & gene therapy
	Cliniques Universitaires Saint-Luc - Celyad	Cell-based therapies, organizing CAR-T clinical trials for pancreatic cancer patients

Belgium: the Top Country for Clinical Trials in Europe



Feel inspired

EXPORT

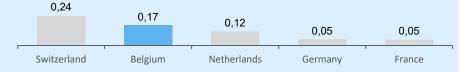
A leading country for innovation

Belgium has the shortest approval rates for Phase 1 clinical trials, allowing it to attract a significant share of European clinical trials

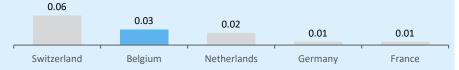
Innovation

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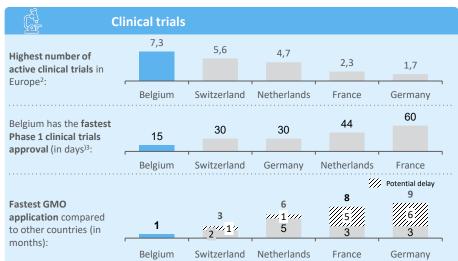
- Over 1.800 drugs are currently in development in Belgium, including more than 400 for cancer treatment and more than 200 for immunological disorders, making Belgium one of the most productive drug development hubs in the world¹
- Number of medicines in development per 1,000 inhabitants ¹:



• Number of patents per 1,000 inhabitants¹:



¹AdisInsight by Springer; ²Of medicinal products for gene therapy, somatic cell therapy, and for products containing genetically modified organisms; ³Pharma.be, 4World Intellectual Property Organization



- Almost 30% of the clinical trials conducted in Belgium focus on cancer, accounting for 20% of all cancer clinical trials in the EU²
- Currently **11 cell therapy clinical trials within cancer immunology** in progress in Belgium with different corporations (Celyad, Celgene, Janssen, Kite Pharma/Gilead, Novartis, Servier)
- Belgium at the forefront of novel medical techniques: of all clinical trials in EU, 15% biological phenomena and 33% genetic phenomena

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3 Logistics Environment



- 1. A remarkable pharma export champion
- 2. The most central geographical location in Europe
- 3. Surrounded by large manufacturing and distribution sites and presence of key biotech logistics and transport companies
- 4. Enjoying an extensive, reliable 24/7 airfreight coverage
- 5. Favorable regulatory environment and efficient customs and clearance operations

1.000K LHR AMS 2.000K 500K CDG MUC

Belgium as the key European biologistic hub

Representing 13% of all European exports of biopharma products incl. blood products, Belgium is a remarkable pharma export champion



Pharma Export Out of Belgium

- Belgian export represents 12.1% of all European exports of biopharma products
- 2nd largest exporter in (bio)pharmaceutical goods (per inhabitant) in the EU
- #1 export of life science products compared to other countries in scope (BE, CH, DE, FR, NL: 100 = best)



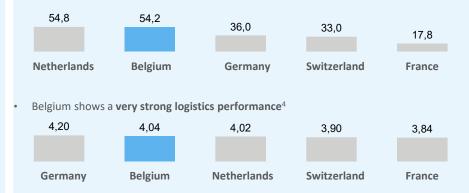




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Strong Connectivity Throughout Europe

- Thanks to its dense, high-quality transportation infrastructure, Belgium offers fast connections to locations all over Europe by air, sea or land
- High density of motorways in Europe (#m of motorway per km²)³



- Free circulation of goods & services within the EU resulting in absence of direct (i.e. customs tariffs) and indirect (i.e. administrative costs) for cross-border trade
 - As opposed to Switzerland, where despite free trade agreements and abolishment of industrial import tariffs- the administrative customs burden remains high in both import and export situations
- Belgian customs are trained on high-value products such as stem cells and clinical trials

¹Pharma.be on data supplied by pharma.be's member-companies which performs fundamental research into medicines for human use. 2015 data; ²Pharma.be: Pharma Figures 2017; ³NationMaster: Motorway density; ⁴The World Bank: International Logistics Performance Index 2018. 5 Belgium scores highest in 'international shipments' and 'timelines'". Timelines = frequency with which shipments reach consignees within scheduled or expected delivery times

Most central geographical location in Europe

Belgium's role as a regional logistical hub makes its economy geographically favorable, particularly with EU trading partners



- Presence of global biotech & pharmaceutical European distribution centers; 900 LSP & cross-industry distribution centers
- 5 airports (2 CEIV pharma certified; Brussels & Liège 1 full cargo dedicated -Liege)
- 246,000 employees in transport & warehousing; 327,463 employees in integral logistics

¹Pharma.be, National bank, VIL, IATA, Brussels Airport and Deloitte

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Strong Connectivity Throughout Europe

• **Top-10 cities** (>50% of all trials in Europe) in terms of total trials **reachable** within 24 hours

Travel time	Road	Air	Rail
Brussels to	Noau		Rall
Madrid	16hr15	1hr46	15hr25
Rome	15hr	1hr37	14hr15
London	5hr	0hr36	2hr20
Paris	3hr30	0hr55	1hr25
Milan	9hr40	1hr03	11hr05
Amsterdam	2hr15	0hr25	1hr53
Valencia	16hr	2hr15	17hr10
Vienna	11hr	1hr18	10hr30
Naples	16hr40	1hr48	15hr25
Leuven	0hr30	-	0hr30

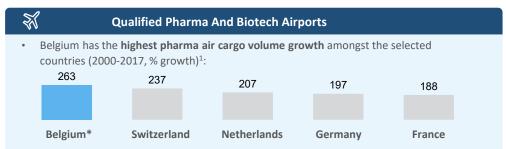
Clinical Logistics Players with GMO, temp controlled packaging, real-time monitoring and customs clearance experience with local BE presence:



Belgium is enjoying an extensive, reliable 24/7 airfreight coverage

Belgium enjoys an extensive, reliable 24hr airfreight coverage via multiple hubs with Brussels Airport Cargo as a leading airport in time and temperature-controlled cargo

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- Extensive, reliable 24hr airfreight coverage via 7 hubs
- · Streamlined and highly professional customs procedures
- Brussels Airport is the 1st CEIV pharma certified airport. Active in high value sensitive samples and products
- Liege Airport is the 7th biggest European cargo airport with dedicated cold chain infrastructure and 24/7 operations; trained to biotech customs officers (Also home of Alibaba)
- Brussels South Charleroi Airport has a dedicated small pharma infrastructure 0 tarmac time and 0 transit time
- Luxembourg, Düsseldorf, Amsterdam-Schiphol airport at less than 2hr30 drive from Brussels



Pharma Export From Brussels Airport (BAC)

 Brussels Airport Cargo is a leading airport in time and temperature-controlled cargo with 133 direct destinations



- € 12bn total export in EU out of BAC
- 60,000 T total pharma export in EU out of BAC



79% of time & temp controlled cargo is **pharmaceutical products**

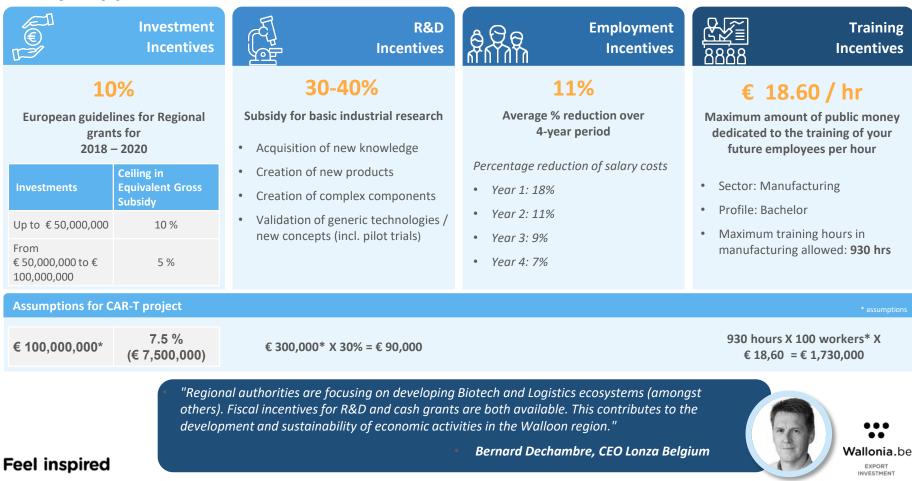
22% of time & temp controlled cargo are blood products & vaccines

1% of time & temp controlled cargo is $AB^{\rm 1}$



- 1. Very supportive environment
- 2. Fiscal aspects

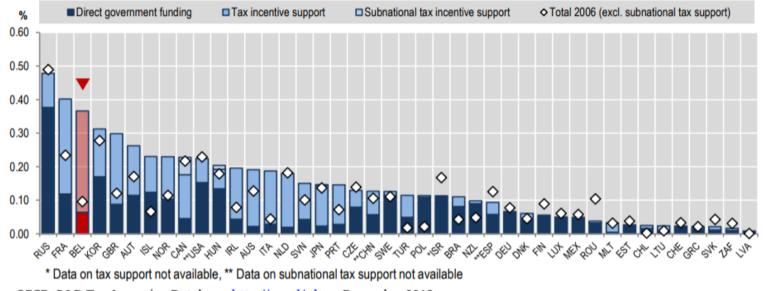
A very supportive environment



Fiscal Aspects (1/4)

Belgium as the best tax supporter for business R&D

Direct government funding of business R&D and tax incentives for R&D, 2017 (nearest year) As a percentage of GDP



Source: OECD, R&D Tax Incentive Database, http://oe.cd/rdtax, December 2019.

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Fiscal Aspects (2/4)

Scenario 1: Belgian subsidiary manufactures on behalf of foreign R&D entity

Business model

Cost center/ intragroup services with limited functions, limited risks, no intangibles

How does it work?

Manufacturing on behalf:

Cost Plus method (reinvoicing to foreign co.)

Hypothesis :

Operational expenses:	100
Reinvoicing to the foreign entity (108%):	108
Net taxable profit:	8
Corporate tax: 8 x 25% =	2

Nominal CTR: 25 % on a reduced basis

Effective CTR: 10%

(by comparison with a Classical Business Model with 120 of Sales: Taxable profit: $20 \rightarrow 2/20 = 10\%$)

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Cost plus method with a mark-up of 8%

Benchmark

Cost Plus:

2 components: the « Cost base » and the « Plus »: The lower the manufacturing costs, the lower the taxable basis, the lower the tax due

1°) The « Cost base »:

• No mark-up on disbursements expenses \rightarrow lower expenditure basis

BELGIUM:

The lowest labour costs:

- 80% exemption on withholding tax on wage of researchers
- 25% exemption on wage of workers in team work
- Various reductions of social security contributions

WALLONIA:

- Lower wage costs + 25% salary tax exemption for Biopark
- Lower land costs

2°) The « Plus »

Favorable mark-up to negotiate with the ruling commission of the Belgian Ministry of Finance on base of a Transfer Pricing study

Fiscal Aspects (3/4)

Scenario 2: Belgian subsidiary as IP-owner/or IP-developer and manufacturer

Business model Profit center: Combination of R&D, manufacturing and sales Belgian subsidiary performs R&D activities and builds up IP-rights, next to its manufacturing (self-developed IP/ or acquired IP/ or IP included in process innovation)

Taxation / Tax incentives

Manufacturing on behalf: Cost Plus method (reinvoicing to foreign co.)

- 1°) R&D incentives reducing substantially R&D costs:
 - 80% exemption on withholding tax on wage of researchers
 - 13,5% tax credit for R&D assets = 4% of cost saving
 - total exemption of regional grants for R&D (30 to 40% in Wallonia)
- 2°) Innovation Income Deduction reducing drastically the taxable profit:
 - 85% of the eligible net IP income (including royalties, embedded royalties and capital gains) is exempt from tax in Belgium
- → Effective CTR : 3.75% or 10.5% (see next slides)

Benchmark

- Wage tax exemption for researchers: higher in Belgium
- Innovation box ECTR:
 - Belgium 3.75% / The Netherlands 7% / Ireland 6.25% (source: Deloitte International Tax Highlights)
- According to OECD report 2017 edition, the Belgian tax package for R&D is **number one worldwide** in the ranking of attractive tax systems.

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Fiscal Aspects (4/4)

Innovation Income Deduction: Example

Patent self-developed

Effective tax rate	3.75%
Corporate Tax: 45 x 25 %	11.25
Taxable Income: 300 – 255	45
Innovation Income Deduction: 300 x 85%	255
Income receiving tax benefits: 300 x 100/100	300
Modified NEXUS fraction: Numerator: 100 / Denominator: 100	100%
Net IP income: 400 - 100	300
 Qualifying R&D expenses (= overall R&D expenses) 	-100
Qualifying gross income	400

Acquired patent and outsourcing to related parties

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Corporate Tax: 105 x 25 %	26.25
Taxable Income:250-145	105
Innovation Income Deduction: 171 x 85%	145
Income receiving tax benefits: 250 x 68.4%	171
Modified NEXUS fraction: Numerator :100 x 130% = 130/Denominator: 190; Ratio: 130/190	68.4%
Net IP Income: 400 - 150	250
Overall R&D expenses	-150
R&D expenses related parties	40
Acquired patent (50); depreciation on 5 years	10
Qualifying R&D expenses	100
Qualifying gross income	400

Effective tax rate

10.5%



5. Working & Living environment

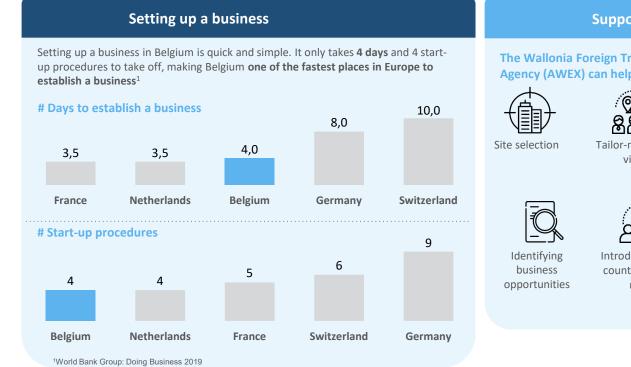
Belgium as top European destination for work

- 1. A welcoming business environment
- 2. Available pool of talents

A welcoming business environment

Feel inspired

Setting up a business in Belgium is quick and simple. It only takes 4 days and 4 start-up procedures to take off, making Belgium one of the fastest places in Europe to establish a business



Support in setting up a business

The Wallonia Foreign Trade and Investment Agency (AWEX) can help you with a.o.:





Tailor-made site visits

All tax benefits, financial grants and incentives

All legal aspects of setting up business



Introduction to the country's decision makers

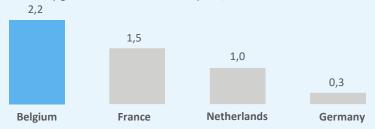
Integration into local community life

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Every year, Belgium has more than 25,000 graduates in health studies, of which > 1,000 students graduate in the most relevant disciplines for CAR-T

Yearly Graduates

- > 25,000 graduates yearly in health studies (e.g. medicine, medical diagnostic and treatment and pharmacy)¹
- Number of tertiary graduates in health studies per 1,000 inhabitants^{1:}



- >13,000 graduates yearly in engineering, manufacturing and construction studies¹
- >1,000 graduates annually in most relevant disciplines for CAR-T (e.g. biochemistry & biotechnology, bio-engineering sciences: cell & gen-technology, and biomedical sciences)
- >1,500 graduates annually in biological and related sciences (e.g. biology, biochemistry)¹
- There are 15,500 international students, of which 1,050 are Chinese



¹Eurostat 2016

A dedicated biopharmaceutical Training Center: The CefoChim

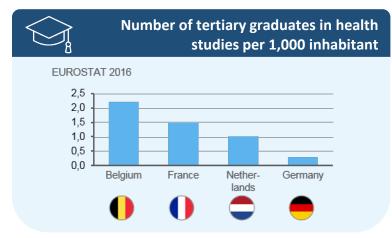
- 4,500 people trained annually
- A job-integration rate of more than 85% of job seekers
- Ongoing extension project (€8m) ready in 2020
- Tailored-made formation on request





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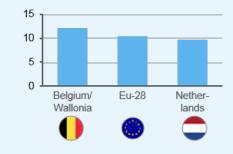
Relevant Figures (1/2)





Workers loyalty to the employer

Average number of years, EUROSTAT 2017



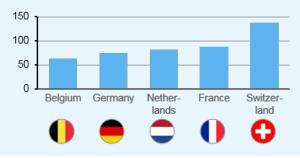


Average annual hours actually worked

2 k 1,73 k 1,56k 1,58k 1,5 k 1,43 k 1,39 k 1,5 k 1k 0,5 k-0 k-Germany Netherlands Switzerland Belgium **OECD-Total** France

Average wage cost In R&D in Europe

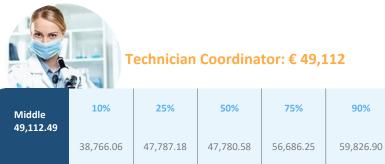
Data Janssen 2018 in K€ per FTE



OECD (2021), Hours worked (indicator)

Relevant Figures (2/2)

Yearly Average Gross salary (Belgian Wallonia Region)







Operator /assistant operator: € 35,246

Middle	10%	25%	50%	75%	90%			
35,246.53	29,864.63	32,392.76	32,392.76	39,852.23	41,726.24			

Quality Assistant: € 38,327

iddle ,327.86	10%	25%	50%	75%	90%
,327.80	31,842.73	34,480.41	35,812.28	43,593.12	45,748.61

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6. Recent investments in Wallonia

An abundance of Success Stories

A real-world case

"A nearby logistic hub, the proximity to the German and Dutch borders and cities (Maastricht, Aachen, Kohl) and a large pool of available multi-lingual talents continuously contribute to the development of the activities on site"

In 1993, Boehringer Ingelheim & BioWhittaker decided to create a new Biotech site in Belgium mainly because of its central location in Europe. Since 2017, after the acquisition of the Biosciences division by the Swiss group Lonza, the Verviers site has continuously grown at a two digits rate. Main activities on site are cell culture media production and central distribution platform for both Europe and Asia.

The site location in Belgium definitely represents a very competitive advantage, very much acknowledged by the Lonza Headquarters in Basel.



A nearby logistic hub in Liège, the proximity to the German and Dutch borders and cities (Maestricht, Aachen, Kohl) and a large pool of available multi-lingual talents continuously contribute to the development of the activities on site.

Additionally, regional authorities are focusing to develop Biotech and Logistics poles (amongst others) and to support and develop small (start-up) and middle sizes companies in all fields of activities. Fiscal incentives for R&D and cash grants are both available. This contributes to the development and sustainability of economic activities in the Walloon region.

Today, the acknowledged dynamic and professionalism of the Lonza teams in Belgium, and the a.m. positive context's elements, contribute to the development of the site: within the last 8 months, 60 additional employees were hired and ongoing investments are at study phase. No doubt, Lonza Verviers is and will continue to be a strong contributor to the Belgian economy.

Bernard DECHAMBRE CEO Lonza Belgium Petit-Rechain, September 2018



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The Brussels South Charleroi Biopark – Feedback from members

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As a small company wanting to reach a global market, joining an ecosystem that supports growth was vital for us. After extensive research, we have chosen the Walloon ecosystem because of its qualified workforce, more experienced in the production of cellular products than in the Netherlands. Ncardia is now located in the Brussels South Charleroi Biopark, where we also found a rich ecosystem of companies working in human cell production or cell therapy (MaSTherCell, Bone Therapeutics, Promethera, Celyad, etc.) and experienced investors. In short: the biotech ecosystem in Wallonia offered us talent, business relations and capital, all essential to our company growth.

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Stefan Braam CEO, September 2018



Recent investments in Wallonia

Catalent.

February 2020: Catalent, Inc. announced that it had completed its acquisition of MaSTherCell Global Inc.

The acquisition adds to Catalent's network MaSTherCell's 25,000 square-foot clinical services facility in Gosselies, Wallonia.

Catalent will leverage its resources and expertise in build-outs, scale-ups and commercial manufacturing to support the expansion already underway of a 60,000 square-foot commercial-scale cell therapy production and fill-finish facility adjacent to the existing building in Gosselies, which is scheduled to open in the fall of 2021.



December 2020: GSK has just announced an investment of nearly €100 million at its

Rixensart site to "consolidate and centralise" its R&D activities. This investment confirms "Belgium's strategic role in vaccine research and development".

The site, which employs 1,800 people, houses the world's largest vaccine research and development unit as well as production activities. The planned investment will allow all clinical laboratory activities to be centralised on the site. Clinical samples arriving at Rixensart from all the clinical sites around the world where clinical studies are being conducted will be managed by a system that is fully automated right through to analysis and the final encoding of results.

Recent investments in Wallonia





January 2021: Thermo Fisher Scientific Inc. and Groupe Novasep SAS, a leading supplier of services and technologies for the life sciences industry, today announced that Thermo Fisher has completed the acquisition of Henogen S.A., Novasep's viral vector manufacturing business in Wallonia for approximately €725 million in cash.

Novasep's viral vector manufacturing business provides contract manufacturing services for vaccines and therapies to biotechnology companies and large biopharma customers. With two locations in Seneffe and Gosselies, in Wallonia, Novasep's viral vector business offers more than 7,000 square meters of stateof-the-art clinical and commercial manufacturing capacity.

The addition of their manufacturing capabilities in Europe complements our four development and manufacturing sites in North America. In addition, they bring an incredibly talented team with more than two decades of experience across a broad range of viral vectors. The combination will benefit our global customers seeking support and capacity in the region as well as European customers bringing new medicines to patients inside and outside of Europe



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